ABSTRACT OF THE DISCLOSURE

A Non-Scanning Computed Tomography Imaging Spectropolarimeter (NS-CTISP) measures all spatial, spectral and polarimetric information simultaneously in an image scene allowing measurement of dynamically changing scenes. In particular, NS-CTISP uses division of aperture to polarimetrically analyze each divided image, all of which are thereafter diffracted to measure irradiance on a focal plane array. The Stokes object cube data for each voxel is thereafter estimated from an inverse of the voxel polarimetric calibration matrix for the optical components.